# National Institute of Dental and Craniofacial Research

# Workforce Plan: FY 2002-2003

**1. Skills vital to accomplishment of agency's goals and objectives.**

Millions of Americans suffer from the complex diseases affecting the teeth, mouth and face—including oral cancer, cleft lip and palate, temporomandibular disorders and Sjögren's syndrome. The Surgeon General's recent report, *Oral Health in America*, highlighted the role that cutting-edge research can play in preventing and treating these and prevalent conditions, such as dental caries and periodontal disease.

The NIDCR will continue to recruit for individuals with the skills to fulfill our strategic mission, which is to improve and promote craniofacial, oral and dental health through research. The Institute's Strategic Plan: *Shaping the Future,* identifies 5 major program themes to accomplish this mission: Inherited Diseases and Disorders; Infectious Diseases and Immunity; Neoplastic Diseases; Chronic and Disabling Diseases; Biomaterials, Biomimetics and Tissue Engineering; and Behavior, Health Promotion and Environment. We plan to recruit individuals with scientific expertise to address the more urgent key areas of emphasis, including the following:

- Applying Biomimetics to Orofacial Tissue Restoration: NIDCR scientists are using the principles of biomimetics to create replacement bone, cartilage, and tooth structures. Scientists today can mimic biological systems to fabricate high-performance composites that in the near future will be used to replace or repair structures such as bone and teeth. Investigators are also looking at how such materials can be used for drug and gene delivery in the treatment of a variety of diseases.

- Construction of An Artificial Salivary Gland: Saliva is a remarkable, multipurpose fluid whose presence most of us take for granted. Over one million people suffer a loss of salivary gland function as a result of Sjögren's syndrome, an autoimmune disease, or from radiation treatment for head or neck cancer. The resulting loss of saliva flow markedly impairs quality of life. NIDCR scientists are focused on creating a small tube that can be placed into the cheek of patients whose salivary gland cells have been destroyed. The tube would be lined with cells engineered to secrete a saliva-like substance. Scientists believe that this artificial salivary gland will be ready for clinical testing within 5-7 years.

- Novel Genes Involved in Craniofacial Disorders: By unraveling the genetic basis of craniofacial disorders, investigators seek the means to detect and hopefully prevent these conditions. NIDCR-sponsored researchers have also identified the gene responsible for one form of cleft lip/palate. NIDCR will build on these successes through a new initiative to identify the genes responsible for craniofacial disorders and birth defects and to document their functions.

- Head and Neck Cancer Programs: As an extension of research aimed at understanding and preventing devastating oral and pharyngeal cancers, NIDCR and the National Cancer Institute will co-fund Specialized Programs of Research Excellence on head and neck cancers. These specialized programs are designed to support research that will have the most immediate impact on reducing the incidence, morbidity and mortality of head and neck cancers.

- HIV Oral Transmission and Infection: HIV can be transmitted via the oral cavity, either through sexual contact or from caregiver to child. However, additional research is needed to better understand both the mechanisms of oral transmission and the role the oral cavity plays in the body's natural defenses against HIV. NIDCR will further develop several key research areas related to the oral transmission of HIV.

- Clinical Trials: through multi-center studies, NIDCR scientists will study the interrelationship between oral infections and systemic diseases, and the prevention, diagnosis and treatment of dental caries (vaccine) and periodontal diseases (vaccine and bone regeneration materials).

- Provide people power necessary in order to carry out our oversight and review responsibilities: We must assess the overall ability of grant applicant institutions to conduct proposed research and the adequacy of their scientific facilities. Hiring for these activities is critical to the NIDCR's ability to make a complete assessment of grant applications.

**2. Expected changes in the work of the agency**

No changes in the research mission of the NIDCR are anticipated during these fiscal years. Over the next several years, the manner in which work is accomplished gradually will shift, primarily due to changes in IT technology. New systems such as the Department's EHRP and the NIH's eRA ultimately may eliminate some technical positions. The NIDCR does not have an excess of positions in the areas likely to be affected, and we expect any necessary reductions to be achieved through attrition or reassignment of staff.

**3. Recruitment, training and retention strategies being implemented**

The NIDCR utilizes the traditional recruitment incentives (3R's, loan repayment) to attract top candidates for our positions. We have taken advantage of our ability to pay for professional development of staff by competitively offering to support coursework in the Institute's mission-critical needs (e.g., clinical trials). Recently, we undertook an evaluation of all supervisory staff to assess needs for leadership development. As a result of that assessment, the implementation of individual development plans is underway. In addition, our intramural Office of Education has been very active in outreach efforts to attract underrepresented minorities to dental science. In the past year, more than 10 campus events or visits to colleges/universities have taken place, resulting in a number or inquiries and placements for summer positions.

## 4. Skills imbalances

Since we resolved issues of skills imbalances resulting from our decision to contract out our in-house animal care services, we have identified no remaining skills imbalances at this time. For the past several years, our turnover rate has been stable, with administrative and science positions being vacated and refilled on a routine basis. In our intramural program, postdoctoral fellows replace most mid-career scientists who leave. We have no indication that there will be major changes (either through retirements or other moves out of the Institute) in our more senior ranks.

## 5. Challenges in recruiting and retaining high-quality, diverse workforce

The major challenge continues to be the relative inflexibility of the civil service pay systems. While Title 42 for scientists has relieved some of this pressure, a severe problem still exists in the information technology arena. In the office assistant ranks, the pay issues are becoming more acute. As we try to retain our best among these groups, we are continually hampered by the general schedule classification system. Both of these, as well as other groups, play critical roles in support of the Institute's science programs.

## 6. Delegated authorities and restructuring

We have found that we are able to better manage many of our affairs without delegating authorities beyond the division level. This works because of the already streamlined organizational structure, and "intimate" nature of the Institute. Organizational layers are at a minimum with senior managers making the programmatic decisions. In the administrative arena, we can assure equity in pay, recognition, international/sponsored travel, etc., among our program components with central review and approval. Our purchasing agents do use credit cards for small purchases. In addition, we have allocated operating budgets and resulting accountability to our senior investigators and extramural branch chiefs.

## 7. Barriers to achieving workforce restructuring

The NIDCR does not have excessive organizational layers that could be restructured. Most supervisors and managers are "working supervisors," who carry out day-to-day work in the science or administrative arenas in addition to performing supervisory duties.

# NIDCR Hiring Plans for FYs 2002/2003

| | FY 2002 | FY 2003 | Total |
|---|---|---|---|
| INTRAMURAL | | | |
| Senior Investigators [1] | 0 | 3 | 3 |
| Investigators [1] | 3 | 3 | 6 |
| Other MD/PhDs, in FTE positions | 9 | 11 | 20 |
| Other MD/PhDs in non-FTE positions (IRTA, VF) | 33 | 35 | 68 |
| Other lab/clinical staff => GS-13 | 3 | 2 | 5 |
| Other lab/clinical staff =< GS-12 | 11 | 9 | 20 |
| Admin/support staff => GS-13 | 4 | 2 | 6 |
| Admin/support staff =< GS-12 | | | 0 |
| Infrastructure support => GS-13 | 1 | | 1 |
| Infrastructure support =< GS-12 [2] | | | 0 |
| Summer and other temps not listed above (include summer IRTAs) | | | 0 |
| TOTAL INTRAMURAL | 64 | 65 | 129 |
| EXTRAMURAL | | | |
| HSAs/SRAs and other senior level science administrators => GS-13 | 5 | | 5 |
| Other science administration positions =< GS-12 | 1 | | 1 |
| Grants Management and R&D Contract Staff => GS-13 [3] | | 1 | 1 |
| Grants Management and R&D Contract Staff =< GS-12 [3] | | | 0 |
| Administrative and support staff => GS-13 | 4 | 1 | 5 |
| Administrative and support staff =< GS-12 | 2 | | 2 |
| Infrastructure support => GS-13 | | | 0 |
| Infrastructure support =< GS-12 [2] | 1 | | 1 |
| Summer and other temps not listed above | | | 0 |
| TOTAL EXTRAMURAL | 13 | 2 | 15 |
| IC TOTAL | 77 | 67 | 144 |

[1] Using OIR professional designations

[2] Include all wage grade positions related to infrastructure in this group

[3] Includes 1101, 1102, 301 and 303 series where individual is engaged in these activities on a full-time basis.